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10/730,508	12/08/2003	Robert J. Curran	POU920030196US1	2326

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EXAMINER

MADAMBA, GLENFORD J

ART UNIT	PAPER NUMBER
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2151

MAIL DATE	DELIVERY MODE
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02/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/730,508

Applicant(s)

CURRAN ET AL.

Examiner

Glenford Madamba

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Remarks

1. This action is in response to remarks filed by Applicant's representative on November 26, 2007.

Response to Affidavit Filed

1. The affidavit filed on November 26, 2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Moore prior art reference. The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Moore reference, according to the MPEP under § 1.131 Affidavit or Declaration of prior invention:

2(b) the showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application. Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or declaration or their absence must be satisfactorily explained.

In this case, Applicant has officially filed and 'declared' their *reduction to practice* of the invention prior to the effective date of the Moore prior art reference (April 16, 2003), by providing an exhibit (affidavit) attesting to the act of performing 'code writing

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and testing' for carrying out the recited steps of the claimed invention prior to the subject date, and including therewith signed testimony by all of the inventors. However, Applicant has not provided the required supporting documentation (e.g., original exhibits of drawing or records) to establish the allegation of prior reduction to practice of the invention as complete and valid or 'sufficient' to overcome the rejection under the Moore prior art reference, as required by the MPEP. Further, even if Applicant were to furnish such evidentiary documentation, Applicant is also required to disclose where in the disclosures of the documentation the claimed invention is generally disclosed. Applicant is thus noncompliant with the above requirements for establishing a proper reduction to practice of the invention. Applicant has failed to comply with the provision of adequate and evidentiary documentation to support the assertion of reduction to practice by the inventors, and Applicant has also not established and/or verified where in the supporting documentation, if any, the claimed invention is generally disclosed.

Consequently, for the reasons noted above, Applicant's claim to reduction to practice of the invention prior to the subject date of the Moore prior art reference is thus considered 'insufficient' to overcome the application of the prior art in rejecting Applicant's claimed invention. Applicant's official request for the removal of the cited patent application (Moore) in rejecting any of Applicant's claims is thus denied.

Response to Preliminary Matters

1. Applicant contends that the cited patent application to Dugan "is not even eligible to be cited as prior art since it is indeed not prior", by virtue of the fact that the Dugan patent publication indicates a filing date of February 15, 2006, while the effective filing date of the present application is its priority date of December 8, 2003, which is more than two years earlier than the cited application to Dugan. In response to this argument, the Office notes that Dugan is a continuation of several applications, such as Application 10/026,850, which has a filing date of December 19, 2001, and verified by the Office as disclosing the same teachings and disclosures. Accordingly the Dugan prior art effectively and properly is benefiting of the continuation application filing date, which at least 2 years prior to the filing date of the present application. Dugan is thus held eligible and valid as prior art for use in rejecting any of Applicant's claims.

Response to Arguments

1. With respect to Applicant's latest submission, the Office has given consideration to the remarks filed on November 26, 2007, but has deemed the arguments unpersuasive and/or insufficient to overcome the current rejection of the claims in view of the prior art references used in the Office Action submitted, as will be discussed below.

With respect to the rejection of claim 1 under U.S.C. 102(e) in view of the Moore prior art reference, Applicant firstly argues that the Moore prior art reference does not teach or disclose recited limitations of claim 1, such as the feature of "initiating a data management (DM) application in said environment", The Office respectfully disagrees and submits that Applicant has misinterpreted the teachings of the prior art reference and/or not considered the full disclosures of the prior art reference.

In support of his argument, Applicant remarks that the Examiner has mistakenly asserted that the feature of a data management application (DM) is disclosed by Moore. Specifically, Applicant argues that the Examiner's citation to Moore's disclosure of a *Data Migration Application Interface* (DMAPI) as teaching the recited feature of a "*Data Management Application (DM)*" is not accurate or the same thing. Applicant argues that the cited language describes a *data migration interface*, not a *data management application*. In this regard, Applicant remarks that an application is not an interface and that data migration is not the same thing as data management. The Office respectfully disagrees.

In response to Applicant's above argument, the Office firstly notes that with reference to Applicant's own description for his invention, Applicant's background for the invention and specification expressly teaches and discloses the use of the *Data Management Application Programming Interface* (DMAPI) for "addressing data

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movement concerns", for "dealing directly with data movement (or 'migration') issues in a large cluster and "aiding data management" by allowing DM applications to be developed in much the same way as any ordinary user application. Furthermore, a set of standard interface functions are offered by DMAPI (*Data Management Application Programming Interface*) that provides the developers the tools they need for "monitoring and controlling data (file) use...[Application: 0006].

Applicant also teaches that incorporation of DMAPI into SAN environments is challenging and that "recent incorporation of SANs in computing environments have made it necessary that SAN environments also rely on DMAPI (*Data Management Application Programming Interface*) at least for hierarchical storage management tools [0008-0009]. Consequently, it would be desirable to utilize multiple nodes for "data movement" under the coordination of a DMAPI application on a single session node to enhance performance without altering the operating system, the components of the computing environment, or the DMAPI standard [0011] - which is an objective of Applicant's invention. Thus, based on the above, it is clear that Applicant, at the very least, discloses a data management application programming interface (DMAPI) for monitoring and controlling "data movement", as part of his invention.

Likewise, Moore expressly discloses the equivalent of Applicant's DMAPI, namely, *Data Migration Application Programming Interface* (DMAPI'), and Moore's invention provides for a method of "accessing data within a SAN which provides 'true'

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data-sharing by allowing all SAN-attached systems direct access to the same file system. Moore similarly discloses using the disclosed industry standard *Data Migration Application Programming Interface* (DMAPI) of his invention for implementation of *Hierarchical Storage Management*, inter alia, in the same fashion as Applicant's claimed invention. Thus, it is clear that Applicant's argued feature of a data management application (e.g., DMAPI application) where DMAPI refers to Data Management Application Programming Interface – and directly deals with "data movement" – is identical, if not equivalent, to Moore's disclosure of a *Data Migration Application* (e.g. DMAPI application) where DMAPI refers to *Data Migration Application Programming Interface*. A data management application "dealing with" data movement and storage and a *data migration application*, performing similar functions, are one and the same, and indistinguishable. The argued and recited feature of "initiating a data management (DM) application is thus expressly disclosed by Moore.

Further, with regards to claim, Applicant also argues that Moore does not teach or disclose the recited feature of "posting a worker thread to one or more of the nodes to *perform data movement* in response to the event. In support of his argument, Applicant contends that the "thread" referred to by Moore is a Remote Procedure Call, and is not a thread "that has anything to do with *data movement*" and thus Moore does not even support a characterization of similarity between the claimed language and Moore's disclosures. The Office respectfully disagrees.

In response to the argument, the Office asserts that Moore expressly discloses the recited feature of threads, such as an RPC, in the same manner and/or context as described by Applicant in his description of his own claimed invention, and that it is, in fact, related to performing "data movement", as argued and recited by the claims. For example, Moore expressly teaches that a Remote Procedure Call (RPC) "is a thread that is initiated on a node in response to a message from another node to act as proxy for a requesting node" [0103]. The feature of posting a thread to a worker node for performing an operation is thus disclosed.

In response to Applicant's argument that the thread does not have anything to do with data movement, the Office notes Applicant's own description for the operation of migrating or 'moving data'. Specifically, Applicant specifies and discloses that "it is often the case that data resides on tape drives or other tertiary storage apart from the file system because of the infrequency that the particular data is used...When the requested data is not available within the file system, it is necessary to move the data to and from such tertiary storage [Application Specification: 0045]. This feature is identically taught by Moore. Specifically, Moore teaches that "in addition to caching data that is being used by a node, in the preferred embodiment of Hierarchical Storage Management (HSM), such as the data migration facility (DMF) from SGI, is used to move data to and from such tertiary storage, particularly data that is infrequently used [0073]. Thus, contrary to Applicant's argument, Moore expressly discloses 'threads'

that are initiated on selected nodes for performing data access and/or migration requests, as recited by the claim.

Thus, since it has been established that Moore properly and sufficiently discloses all the argued features and recitations of claim 1, the rejection of the claim under Moore is accordingly maintained for at least the justifications provided above for claim 1.

Lastly, with respect to the rejection of claim 5-8 under U.S.C. 103(a) in view of the Moore and Dugan prior art references, Applicant argues that the Dugan prior art reference is not eligible for use as prior art. But as discussed previously (*Response to Preliminary Matters*), the Office has established that Dugan has properly been applied and is valid as a prior art reference in rejecting the claims. Applicant is of the opinion that Moore teaches against the claimed invention, and thus the combination of Moore and Dugan is inapposite. But since it has also been established by the Office that Moore properly and fully teaches all the argued features of claim 1, as discussed above, the combination of Moore in view of Dugan as expressly teaching the additional recited features of claims 5-8 is also thus upheld.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 and 9-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Moore et al (hereinafter Moore), U.S. Patent Publication US 2004/0249904 A1.

As per Claims 1, 19 and 20, Moore discloses a method of managing data movement, comprising:

establishing a processing environment in a cluster of nodes having common access to data residing in one or more data storage units [Abstract] [Figs. 2 & 6];

initiating a data management application (DM) in said environment (e.g. DMAPi) [0008];

assigning a node of said cluster as a coordinating node for managing data movement (e.g. electing a "leader" node, token server node 50 / metadata server node 22b) [Figs. 5-7];

receiving an event by the coordinating node requesting movement of data (e.g. "DMAPI events") [0008] [0074-0077];

posting a worker thread to one or more of the nodes to perform data movement in response to the event (e.g., RPC thread) [0103-0105] [0117-0118].

Claims 19 and 20 recite the same limitations as claim 1, are distinguished only by their statutory category, and thus rejected on the same basis.

As per Claim 2, Moore discloses the method of claim 1, wherein said worker threads are posted to one or more nodes other than said coordinating node to perform data movement tasks [0047] (e.g., RPC thread) [0103-0105] [0117-0118].

As per Claim 3, Moore discloses the method of claim 1, wherein said coordinating node is a session node (i.e, telnet session) [Fig. 2] [0123].

As per Claim 4, Moore discloses the method of claim 1, further comprising providing data management access rights to the one or more nodes to which said worker threads are posted, and permitting only the one or more nodes having said data management access rights to execute said worker threads (e.g. Coordination of cluster file system, such as CXFS, providing file system access and control) [0047-0048].

As per Claim 9, Moore discloses the method of claim 1, wherein said DM application utilizes one or more parallel file systems for management of data (e.g., CXFS cluster file system) [0047-0048].

As per Claim 10, Moore discloses the method of claim 9, wherein each parallel file system further comprises one or more physical file systems (e.g., CXFS cluster file system) [0047-0048].

As per Claim 11, Moore discloses the method of claim 10, wherein said worker threads include calls for performing at least one of punching holes in files, moving data into files and moving data out of files (e.g. create, lookup, read, write) [0049].

As per Claim 12, Moore discloses the method of claim 9, wherein said DM application is initiated using a data management application programming interface (DMAPI) (e.g. DMAPI_90) [Fig. 6].

As per Claim 13, Moore discloses the method of claim 1, wherein said DM application is initiated using a data management application programming interface (DMAPI) (DMAPI) (e.g. DMAPI_90) [Fig. 6].

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As per Claim 14, Moore discloses the method of claim 1, wherein said processing environment includes a storage area network (SAN) including said one or more data storage units [Abstract] [Figs. 2 & 6].

As per Claim 15, Moore discloses the method of claim 12, wherein said processing environment includes a storage area network (SAN) including said one or more data storage units [Abstract] [Figs. 2 & 6].

As per Claim 16, Moore discloses the method of claim 14, wherein said worker threads perform data movement within a hierarchical storage management (HSM) system (e.g. HSM) [0008].

As per Claim 17, Moore discloses the method of claim 1, further comprising reassigning a worker thread to another node upon failure of the node to which the worker thread is dispatched (Cluster High Availability) [0079-0081].

As per Claim 17, Moore discloses the method of claim 1, further comprising assigning another coordinating node upon failure of the coordinating node (Cluster High Availability) [0079-0081] (i.e., "mirror master" node) [0083].

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al (hereinafter Moore), U.S. Patent Publication US 2004/0249904 A1 in view of Dugan et al (hereinafter Dugan), U.S. Patent Publication US 2006/0165223 A1.

As per Claim 5, Moore in view of Dugan discloses the method of claim 1, further comprising establishing a process session in said cluster and assigning a *session identifier* for that session.

While Moore discloses substantial features of the invention such as the method of claim 1, he does not explicitly disclose the added feature of the method of claim 1, further comprising establishing a process session in said cluster and assigning a *session identifier* for that session. The feature is disclosed by Dugan in a related endeavor.

Dugan discloses as his invention a resource management system for an intelligent communications network having one or more distributed service nodes, each service node for providing services relating to an event received at a network resource associated with a service node [Abstract]. In particular, Dugan discloses the additional recited feature of the method further comprising establishing a process session in said cluster and assigning a *session identifier* for that session (e.g. managing threads based on "session ids") [0088].

It would thus be obvious to one of ordinary skill in the art at the time of the invention to combine and/or modify Moore's invention with the above added feature, as disclosed by Dugan, for the motivation of providing a method of managing communications service resources at nodes in an intelligent network designed to perform event processing services for any type of 'event' (e.g., telephone call, received at a resource complex or switching platform associated with nodes of an intelligent Distributed Network (also known as Next Generation Intelligent Network or "NGIN") [0002] [0023].

As per Claim 6, Moore in view of Dugan discloses the method of claim 5, further comprising providing said session identifier to said one or more nodes to which said worker threads are posted, and permitting only the one or more nodes having said session identifier to execute said worker thread [Abstract].

While Moore discloses substantial features of the invention such as the method of claim 5, he does not explicitly disclose the added feature of the method further comprising providing said session identifier to said one or more nodes to which said worker threads are posted, and permitting only the one or more nodes having said session identifier to execute said worker thread. The feature is disclosed by Dugan in a related endeavor.

Dugan discloses as his invention a resource management system for an intelligent communications network having one or more distributed service nodes, each service node for providing services relating to an event received at a network resource associated with a service node [Abstract]. In particular, Dugan discloses the additional recited feature of the method further comprising providing said session identifier to said one or more nodes to which said worker threads are posted, and permitting only the one or more nodes having said session identifier to execute said worker thread [Abstract].

It would thus be obvious to one of ordinary skill in the art at the time of the invention to combine and/or modify Moore's invention with the above added feature, as disclosed by Dugan, for the motivation of providing a method of managing communications service resources at nodes in an intelligent network designed to perform event processing services for any type of 'event' (e.g., telephone call, received at a resource complex or switching platform associated with nodes of an intelligent Distributed Network (also known as Next Generation Intelligent Network or "NGIN") [0002] [0023].

As per Claim 7, Moore in view of Dugan discloses the method of claim 5, wherein said DM application establishes said session and assigns said session identifier (e.g. managing threads based on "session ids") [0088].

While Moore discloses substantial features of the invention such as the method of claim 5, he does not explicitly disclose the added feature of the method wherein said DM application establishes said session and assigns said session identifier (e.g. managing threads based on "session ids") [0088]. The feature is disclosed by Dugan in a related endeavor.

Dugan discloses as his invention a resource management system for an intelligent communications network having one or more distributed service nodes, each service node for providing services relating to an event received at a network resource associated with a service node [Abstract]. In particular, Dugan discloses the additional recited feature of the method wherein said DM application establishes said session and assigns said session identifier (e.g. managing threads based on "session ids") [0088].

It would thus be obvious to one of ordinary skill in the art at the time of the invention to combine and/or modify Moore's invention with the above added feature, as disclosed by Dugan, for the motivation of providing a method of managing communications service resources at nodes in an intelligent network designed to perform event processing services for any type of 'event' (e.g., telephone call, received at a resource complex or switching platform associated with nodes of an intelligent

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Distributed Network (also known as Next Generation Intelligent Network or "NGIN")

[0002] [0023].

As per Claim 8, Moore in view of Dugan discloses the method of claim 5, wherein a plurality of sessions are established in said cluster concurrently and each session is assigned a unique session identifier (e.g. managing threads based on "session ids") [0088].

While Moore discloses substantial features of the invention such as the method of claim 5, he does not explicitly disclose the added feature of the method wherein a plurality of sessions are established in said cluster concurrently and each session is assigned a unique session identifier. The feature is disclosed by Dugan in a related endeavor.

Dugan discloses as his invention a resource management system for an intelligent communications network having one or more distributed service nodes, each service node for providing services relating to an event received at a network resource associated with a service node [Abstract]. In particular, Dugan discloses the additional recited feature of the method wherein a plurality of sessions are established in said cluster concurrently and each session is assigned a unique session identifier (e.g. managing threads based on "session ids") [0088].

It would thus be obvious to one of ordinary skill in the art at the time of the invention to combine and/or modify Moore's invention with the above added feature, as disclosed by Dugan, for the motivation of providing a method of managing

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communications service resources at nodes in an intelligent network designed to perform event processing services for any type of 'event' (e.g., telephone call, received at a resource complex or switching platform associated with nodes of an intelligent Distributed Network (also known as Next Generation Intelligent Network or "NGIN") [0002] [0023].

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenford Madamba whose telephone number is 571-272-7989. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Wallace Martin can be reached on 571-272-3440. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
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Glenford Madamba
Examiner
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